

ABSTRACT OF THE DISCLOSURE

An OP-N connection is mapped through a communications network between first and second end-nodes via at least one intermediate node. The integrity and validity of the OP-N connection can be determined independently of SONET/SDH lines, sections or paths mapped through the network, and potentially utilizing bandwidth of the OP-N connection. Validation of the OP-N connection can be accomplished by inserting performance monitor (PM) information into a data signal at the first end-node. In some embodiments, the PM information is inserted into an unused portion of the transport overhead (TOH) of a SONET/SDH data signal. At each intermediate node between the first and second end-nodes, the PM information is extracted from the data signal, buffered while the data signal is pointer processed, and the reinserted before forwarding the data signal. Finally, at the second end-point, the PM information is extracted and examined. Multiple levels of OP-N connections are supported, with each level being provided with a respective set of PM information.